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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,246	03/19/2001	John P. Wong	032885-001	8377

21839 7590 03/16/2004

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ALEXANDRIA, VA 22313-1404

EXAMINER

ALAUBAIDI, HAYTHIM J

ART UNIT	PAPER NUMBER
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2171

10

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/810,246

Applicant(s)

WONG, JOHN P.

Examiner

Haythim J. Alaubaidi

Art Unit

2171

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 31.04 1) ☒ Responsive to communication(s) filed on 1/2/4
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 13 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is in response to the amendment filed on January 02, 2004.
2. Claims 1-16, are presented for examination following the amendment.
3. Claims 13 and 16 are objected to as being dependent upon a rejected base claim.

Priority

4. Applicant's claim for the benefit of an earlier filing date of the provisional application under 35 U.S.C. §119(e) is acknowledged. The priority date awarded is March 17, 2000.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott Kramer (U.S. Patent No. 6,216,140 and Kramer hereinafter) in view of Mark Skiba (U.S. Patent No. 6,366,5988 and Skiba hereinafter).

Regarding Claims 1-3 and 7-9, Kramer discloses:

mounting components of each of said two physical file systems in a single directory (Col 3, Lines 16-19), i.e.

There is therefore an unmet need in the art to be able to perform a **merge operation of two or more hierarchies of files and directories** that merges content as well as attribute differences in an efficient manner.

(Col 3, Lines 35-38), i.e.

It is still another object of the invention to be able to **perform a merge operation of two or more hierarchies of files and directories** that merges content as well as attribute differences in an efficient manner.

(Col 9, Lines 51-54), i.e.

the merge operation typically occurs one item at a time, thereby being an exceedingly time-consuming process especially for very large hierarchies of files and directories.

(Col 13, Lines 38-40), i.e.

merging the first item of the first hierarchy with the second item of the second hierarchy into a single entry in the difference list

a virtual file system data structure containing elements which respectively correspond to each of the mounted components (Col 3, Lines 39-45), i.e.

Therefore, according to a first aspect of the present invention, efficient copying and sharing of large amounts of hierarchically organized information is provided by a method that **first creates a virtual copy of a hierarchy of items of**

files and directories by adding a new link to the root of the hierarchy in order that the hierarchy may be shared by one or more versions of code¹

Kramer reference discloses all of the claimed subject matter set forth above, except it does not explicitly indicate the step of each of said elements having an application interface data structure with two associated pointers that respectively point to application interface data structure of a corresponding component in each of said two physical file system. However Skiba teaches wherein with two associated pointers that respectively point to application interface data structure of a corresponding component in each of said two physical file system (Col 2, Lines 48-54), i.e.

Another technique for creating an expanded volume was the use of a Distributed File System such as Microsoft's DFS. Using DFS software, a logical volume can be created where each subfolder may point to a folder on a different volume on any machine in the network. This approach is very useful for creating logical directory structures independent of volume location

Given the intended broad application of the Kramer system, it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Kramer with the teachings of Skiba to include pointers to components in other file systems and not just the current file system to increase the system performance by allowing access to a second file system which is better than just one file system especially in network traffic congestion, one other reason would be to allow access to other file systems for recovery and backup situation.

¹ Please refer to the summary of the current application, Page 4, Lines 21-22 in regard to the link

Regarding Claims 4 and 10, the first limitation of this claim has been noted in the rejected claim 1, above. In addition Kramer teaches

receiving a request to perform a write operation (Figure 2B, Element No. 22; see also Col 15, Lines 47-50)

performing said write operation on both copies of said one component in said two physical file systems in real time (Col 15, Lines 43-46), i.e.

In the current invention, mirroring means that all modifications in the original file are identically applied to the mirror copy as soon as these modifications are made.

(Col 15, Lines 51-53), i.e.

Generally, mirroring is done on each Write request by writing input data to the mirror copy in addition to default processing

Regarding Claim 5, Skiba discloses path name (Col 16, Lines 30-32), i.e.

FIG. 13 represents the scheme of mirroring files under the Windows NT platform. The file request comes from the I/O Manager 42 and contains the full file name

Regarding Claim 6, Skiba discloses acquiring a lock (Col 15, Lines 47-50), i.e.

The Mirroring driver processes numerous file requests, including but not limited to: Open, Write (Read for special case), Lock/Unlock, Close, Delete, and Rename, which is used to handle file name and location synchronization

7. Claims 11-12 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mark Skiba (U.S. Patent No. 6,366,598 and Skiba hereinafter) in view of Scott Kramer (U.S. Patent No. 6,216,140 and Kramer hereinafter).

Regarding Claims 11-12 and 14-15, Skiba discloses a first and second server having a first and a second local file system (Col 13, Lines 59-62; see also Col 17, Lines 5-12)

Skiba reference discloses all of the claimed subject matter set forth above, except it does not explicitly indicate the step of client device having a virtual file system which mounts an imported file system from both file systems.

Kramer discloses the step of client device having a virtual file system (Col 3, Lines 39-45) which mounts an imported file system from both file systems (Col 3, Lines 16-19), i.e.

There is therefore an unmet need in the art to be able to perform a **merge operation of two or more hierarchies of files and directories** that merges content as well as attribute differences in an efficient manner.

(Col 3, Lines 35-38), i.e.

It is still another object of the invention to be able to **perform a merge operation of two or more hierarchies of files and directories** that merges content as well as attribute differences in an efficient manner.

(Col 9, Lines 51-54), i.e.

the merge operation typically occurs one item at a time,
thereby being an exceedingly time-consuming process
especially for very large hierarchies of files and directories.

(Col 13, Lines 38-40), i.e.

merging the first item of the first hierarchy with the second
item of the second hierarchy into a single entry in the
difference list

Given the intended broad application of Skiba's system, it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Skiba with the teachings of Kramer to include client device having a virtual file system which mounts an imported file system from both servers to prevent the system from losing any data by providing multiple servers instead of storing all the data on one server..

Allowable Subject Matter

8. Claims 13 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is the Examiner's statement of reasons for the indication of allowable subject matter:

Regarding Claims 13 and 16, Applicant's particular system for a mirrored file system is the step wherein a virtual file system contains elements which respectively

correspond to each of the mounted components, each of the elements having an application interface data structure with two associated pointers that respectively point to application interface data structures of a corresponding component in each of the two imported file system in combination with the other limitations of the claims, was not disclosed by, would not have been obvious over, nor would have been fairly suggested by the prior art of record or that encountered in searching of the prior art.

Response to Arguments

10. Applicant's arguments in the amendment filed January 02, 2004 have been fully considered but they are not persuasive.

a. Applicant argues that Kramer does not teach mounting components of each of said two physical file systems in a single directory. The Examiner however disagrees.

As state above, this limitation can be found in (Col 3, Lines 35-38), i.e.

It is still another object of the invention to be able **to perform a merge operation of two or more hierarchies of files and directories** that merges content as well as attribute differences in an efficient manner.

Due to the broadness of the term "file systems", the Examiner is interpreting it to be as the "directories"; and the "components" of theses file systems to be the "files" of the directories.

b. Applicant argues that Kramer does not teach multiple file systems. The Examiner however disagrees. Given the interpretation of the "file system" above, Kramer does teach this limitation (Col 3, Lines 39-45).

c. Applicant argues that Skiba does not teach two associated pointers that respectively point to application interface data structure of a corresponding component in each of said two physical file system (Col 2, Lines 48-54), i.e.

Another technique for creating an expanded volume was the use of a Distributed File System such as Microsoft's DFS. Using DFS software, a logical volume can be created where each subfolder (data structure) may point to a folder (component) on a different volume (physical file system) on any machine in the network. This approach is very useful for creating logical directory structures independent of volume location

d. Applicant argues in regard to Claims 4 and 10, that Skiba does not teach performing said write operation on both copies of said one component in said two physical file systems in real time. The Examiner however disagrees. Skiba discloses this limitation in (Col 15, Lines 43-46), i.e.

In the current invention, mirroring means that all modifications in the original file are identically applied to the mirror copy as soon as these modifications are made (real time).

In addition, Skiba discloses that the copy of the file (copy of the component) could be located on a different volume on any machine (two physical file system) (Col 2, Lines 48-54), i.e.

Another technique for creating an expanded volume was the use of a Distributed File System such as Microsoft's DFS. Using DFS software, a logical volume can be created where each subfolder may point to a folder on a different volume on any machine in the network. This approach is very useful for creating logical directory structures independent of volume location

e. Applicant argues in regard to Claim 5, that Skiba's full file name is for single file system and not for two different physical file systems as claimed in the application. The Examiner however disagrees. As indicated above in responding to the arguments of Claim 4 and 10, the volume (file system) is located on different machines on the network.

f. Applicant argues in regard to Claims 11-12 and 14-15, that Skiba's does not teach a first and second server. The Examiner however disagrees. (Skiba, Col 2, Lines 48-54), i.e.

Another technique for creating an expanded volume was the use of a Distributed File System such as Microsoft's DFS. Using DFS software, a logical volume can be created where each subfolder may point to a folder on a different volume on any machine in the network. This approach is very useful for creating logical directory structures independent of volume location

The referring to "any machine in the network" is what the Examiner interpreting that the network does contain more than one machines (server) with more than one physical storage.

Other Prior Art Made of Record

11. a. Yu (U.S. Patent No. 5764903) discloses a high availability network disk mirroring system.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Points of Contact

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haythim J. Alaubaidi whose telephone number is (703) 305-1950. The examiner can normally be reached on Monday - Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (703) 308-1436.

Any response to this office action should be mailed to:

The Commissioner of Patents and Trademarks, Washington, D.C. 20231 or telefax at
our fax number (703) 872-9306.

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, 6th
Floor Receptionist, Arlington, Virginia. 22202.

Haythim J. Alaubaidi

Patent Examiner
Technology Center 2100
March 8, 2004


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